

TWO NEW SPECIES OF APHAENOGASTER (HYMENOPTERA: FORMICIDAE)

MARION R. SMITH

Bureau of Entomology and Plant Quarantine
United States Department of Agriculture

The worker of each of the 33 previously described forms of *Aphaenogaster* occurring in the United States is characterized by a pair of epinotal protuberances commonly known as "spines." These may vary from well-defined spines in some species to structures which might more properly be called tubercles in other species. *Aphaenogaster mutica*, described by Pergande from Lower California and listed by Wheeler at present at Terlingua, Tex., has a worker in which these structures are greatly reduced but are nevertheless present as a pair of very short but distinct tubercles. Recently I have seen two undescribed species in which the tubercles are so vestigial that they can be detected only by the most careful examination. One of the species is from Florida, the other from Arizona.

The tubercles on the Florida worker are so feebly developed that they can be seen only under high magnification (61.2 times), whereas those of the Arizona form are scarcely more evident. Although the worker of each species has a slender body and slender appendages, a head greatly narrowed posteriorly, and large and protuberant eyes, I believe both species should be referred to the subgenus *Attomyrma* Emery rather than the subgenus *Deromyrma* Forel, since in each case there is lacking the remarkable collar-like constriction of the posterior part of the head, and the very pronounced, reflexed occipital flange characteristic of *Deromyrma*.

The two forms may be distinguished as follows:

- Anterior surface of petiolar node, in profile, almost in the same plane as that of the dorsal surface of pedicel; postpetiolar node long, low and moderately convex; Florida.....*floridana*, new species
- Anterior surface of petiolar node, in profile, meeting the dorsal surface of the pedicel in a very pronounced, obtuse angle; postpetiolar node short, rather high, and strongly convex; Arizona.....*boulderensis*, new species

***Aphaenogaster* (*Attomyrma*) *floridana* Smith, n. sp.**

WORKER.—Length 4.5–5 mm.

Head, excluding mandibles, one and one-fourth to one and one-

half times as long as broad; including mandibles, subelliptical; much broader anteriorly than posteriorly; sides very strongly converging posteriorly behind the eyes. Occipital flange present but weakly developed. Mandible large, elongate, triangular, the masticatory border with four prominent apical teeth, and a number of smaller and less distinct basal teeth. Clypeus approximately twice as broad as long, convex, with a very feeble emargination in middle of anterior border. Eye prominent, strongly convex, with approximately 15 facets in its greatest diameter; about one and one-half times its greatest diameter from base of mandible. Antennal scape slender, long, approximately one and one-fifth times as long as head not including mandibles; noticeably enlarged toward apex. Dorsal surface of prothorax and anterior half of mesothorax, in profile, forming a regular but not strongly convex arch. Posterior half of mesonotum weakly depressed. Mesoepinotal constriction distinct, not so deep as broad. Base of epinotum feebly convex, distinctly longer than declivity and meeting declivity in an obtuse angle; epinotal tubercles so feebly developed as to be visible only under high magnification (61.2 times). Petiolar node about one and one-fourth times as long as pedicel; anterior surface of petiolar node, in profile, so weakly declivous that the dorsal surface of the pedicel and the anterior surface of the petiolar node appear in almost the same plane; posterior surface not strongly convex, slightly longer than the anterior surface and meeting the latter at an angle of approximately 90 degrees. Postpetiole about one-third longer than broad; from above, sides subparallel throughout the posterior half and converging in the anterior half; postpetiolar node, in profile, longer than high, low and moderately convex. Legs long and slender. Gaster from above elliptical.

Frontal area, posterior part of head, prothorax, anterior part of mesothorax, petiole, postpetiole, and gaster rather smooth and shining. Antennae and tibiae opaque. Mandibles finely striated. Cheeks and region of head anterior to eyes with a few small, longitudinal rugulae. Head, except for areas mentioned, mesothorax, and epinotum with granulation-like shagreening.

Hairs yellowish, sparse, suberect to erect, moderately long on head, thorax, petiole, postpetiole, gaster and ventral surfaces of the coxae, trochanters, and femora. Appressed hairs on antennae and legs short but fairly abundant and conspicuous.

Light yellowish brown, with slightly lighter mandibles and clypeus.

TYPE LOCALITY.—Gretna, Fla.

Described from two workers, holotype and paratype, collected July

15, 1906, by A. W. Morrill. Both, in the collection of the United States National Museum, bear U. S. N. M. No. 55660.

No information is available concerning the biology.

Aphaenogaster (Attomyrma) boulderensis Smith, n. sp.

WORKER.—Length 4.5–5.5 mm.

Head, excluding mandibles, one and three-tenths to one and four-tenths times as long as broad; sides appearing somewhat subparallel up to the posterior border of each eye, from which points they very gradually converge to form rounded posterior corners and a rounded occipital border; occipital border with a weakly developed flange. Mandible large, triangular, with approximately 8–10 teeth of variable size. Clypeus about twice as broad as long, with a rather distinct emargination in middle of anterior border. Frontal carinae subparallel throughout almost the posterior half of their length. Eye prominent, strongly convex, with approximately 15 facets in its greatest diameter; eye about one and one-half times its greatest diameter from base of mandible. Antennal scape slender, long, about one and one-fourth times as long as head, not including mandibles. Dorsal surface of prothorax and anterior third of mesothorax, in profile, forming a regular but not strongly convex arch. Posterior two-thirds of mesonotum noticeably depressed, in profile forming a rather straight line. Mesoeipinotal constriction distinct, broader than deep. Base of epinotum feebly convex, meeting the declivity at an obtuse angle; vestigial tubercles scarcely more evident than those of *floridana*. Petiolar node distinctly longer than pedicel; anterior surface, in profile, meeting dorsal surface of pedicel in a very distinct obtuse angle; dorsal surface of petiole somewhat rounded, as is also the sloping posterior declivity, the two areas ill defined at the point where they merge into each other. Postpetiolar node scarcely longer than high, anterior surface forming a long slope, posterior surface more convex, declivous and short. From above, gaster subelliptical, broader than head.

Frontal area, posterior part of head, prothorax, anterior coxae, dorsal surface of petiole and postpetiole, and the gaster rather smooth and shining. Anterior two-thirds of head, including mandibles, the antennae, and tarsi, more opaque; mandibles somewhat coarsely and longitudinally striated. Clypeus and genae longitudinally rugulose, the former bearing a distinct median carina; frontal area with one or several longitudinal rugulae. Mesothorax, epinotum, and under surfaces of petiole and postpetiole with granulation-like shagreening;

epinotum also finely and transversely rugulose. Coxae, femora, and gaster with exceedingly fine reticulae.

Hairs yellowish, moderately long but sparse, suberect to erect, on head, thorax, petiole, postpetiole, coxae, trochanters, gaster, and also on ventral surfaces of femora. Antennae, tibiae, and tarsi with short, appressed hairs, these especially abundant and noticeable on the antennae.

Light yellowish brown, often with darker mandibles, anterior portion of head, antennae, legs, and gaster.

TYPE LOCALITY.—Horseshoe Island in Mead Lake of the Boulder (Ariz.) Dam.

Described from 21 workers, collected May 2, 1941, by Professor Vasco M. Tanner. Holotype and 13 paratypes in collection of the United States National Museum bear U. S. N. M. No. 55661. The other seven paratypes are in the collection of Professor Tanner.

Professor Tanner stated that the ants were collected from beneath a "lava rock, on the top of Horseshoe Island."

New Bird Records from Zion National Park

During the past few months bird observations in Zion National Park have added new species to the park list. In addition, records of more than usual interest were obtained for other species known to occur within the park. All of the following records are for 1941:

On January 31, the second winter record of a Hermit Thrush *Hylocichla guttata* ssp? was obtained when one was noted in Oak Creek Canyon. This bird stayed around the small stream and adjacent slopes for several days.

On April 25, a male albino woodpecker was observed in Pine Creek Canyon. For some time the bird was followed to learn more regarding its identity. Finally it was joined by a female White-breasted Woodpecker *Dryobates villosus leucothorectis*, and both birds then moved on up the slope together. The male bird was entirely white except for a red crown patch, dark bill and very light gray wings. I was not able to get close enough to definitely determine the color of the eyes.

On April 30, while following up Parunuweap Canyon, a Western Sandpiper *Ereunetes maurii* was found along the stream. Although I covered over four additional miles of the river, no others were noted. This constitutes the first record of this bird from Zion.

The Western Lark Sparrow *Chondestes grammacus strigatus* was listed by Presnell (The Birds of Zion National Park, Proc. Ut. Ac. Sci., Arts & Letters, 1935) as being a rather uncommon summer visitor in the canyons. However, on July 20 a pair of Lark Sparrows were observed feeding young near the residential area in Oak Creek Canyon. This is the first breeding record of this bird in Zion and definitely establishes the species as a summer resident.

On October 18, while in Refrigerator Canyon en route to Angels Landing, I obtained the first record of the Western Goshawk *Astur atricapillus striatulus* for the park. The hawk was in rapid pursuit of a small bird which managed to escape in a dense grove of evergreens. No effort was made to flush the bird from the trees, the hawk apparently knowing that such a task would be fruitless.

As additional studies are made, especially seasonal studies in the higher reaches of the park, new and valuable data should be uncovered that will go far toward clarifying the status of many species in this area that is now obscure.—Russell K. Grater, Park Naturalist, Zion National Park.

Antarctic Birds Contributed by Dr. Russell G. Frazier

A valuable collection, consisting of three species of Antarctic birds, was contributed to the collections of Brigham Young University by Dr. Russell G. Frazier of Bingham Canyon, Utah, on October 25, 1941. These birds were collected in Antarctica by Dr. Frazier while he was a member of the United States Antarctic Expedition, 1939-1941, under the command of Rear Admiral Richard E. Byrd. Dr. Frazier was one of the physicians of the expedition which sailed in the *North Star* and the *Bear* in late November, 1939, from Atlantic ports of the United States. These same two vessels brought the members of the expedition back to Boston in May, 1941. Of the 36 species of birds found in the Antarctic region, three are now represented in the Brigham Young University zoological collection. Two of the five species of Penguins, the *Adelie* and *Emperor*, and a pair of Snow Petrel, with an egg clutch which consists of one egg, makes up the collection.

THE ADELIE PENGUIN

The Adelie Penguin, *Pygoscelis adeliae* Hombron and Jacquinot, Ann. Sci. Nat. (2), p. 320 (1841, Adélie Land), is the common bird throughout the circumference of the extensive polar continent. This species never leaves Antarctica to go north of 60° south latitude. During the short summer the Adelie is busy hatching and rearing its young, while during the long winter it lives on the open sea. It begins to establish its breeding territories in October and November by selecting areas left bare by the melting snow. These breeding colonies are to be found everywhere in Antarctica from the beginning of the mating and nesting period until winter begins in March. There is evidence that the birds return year after year to the same rookeries and use the same nests. The mating pair stays together for the breeding period. Two, very rarely three, eggs are laid which are set on alternately by the male and female. Incubation lasts from about 33 to 36 days; all hatching being over by the middle of January. The down-covered young are fed fish and Crustacea by the parent birds. They regurgitate the food, which is taken from their throats by the awkward, fast-growing young birds. When the young, in March, take to the sea, to care for themselves, they have a plumage different in color to that of the parents, this they wear for a year, when by molting they get the feather coat of the breeding adults.